8 x contact closures optical transmitter A602 model, User Manual

INITIAL INSPECTION
Please, check that the contents of the consignment are correct and verify that no element has been damaged during the transport. In case of mistaken or damaged material, please state an immediate claim to the transport carrier and notify it immediately to the manufacturer or distributor, either for a new remittance or for the repair or replacement of the damaged material.

SAFETY CONSIDERATIONS
All the devices described in this manual have been designed to be properly performed by qualified technical personnel only. Personnel skilled enough to foresee the possible consequences of inadequate handling, must carry out the installation, setting, maintenance or repair of this equipment.

For a correct and safe use of the provided equipment and in order to achieve the best possible security conditions, it is essential to follow not only general security procedures but also the special ones described in this manual.

Never switch on the systems in case there is the smallest suspicion of bad functioning.

For instance, in case of detecting apparent damages which could be consequence of transport or storage, etc.

Before any setting or maintenance operation, disconnect the equipment from any power supply or optical emitter. After electrical disconnection, inside capacitors could remain loaded for one second.

Active power circuitry could appear when protecting lids or coverings are taken away. Likewise, unplugged optical connectors must be immediately covered with the corresponding protecting caps.

In case the equipment needs to be checked while it is functioning, remember that maintenance operations can only be carried out by qualified technical personnel who is aware of the risks of the operation, both from the electrical and optical point of view.

The security classification of this product is Class III.

The modification of the electrical protection elements and the disconnection of the earth terminal may result in personal injury.

Before the equipment is switched on, make sure that it has been properly grounded (through the protective conductor of the a.c. power cable) to a socket outlet provided with protective earth contact.

The earth circuit cover of the electrical external connectors must not be used as protective general earth contact for the equipment.

The optical transmitters could cause safety problems to the personnel in charge of the installation, test, service or maintenance of the equipment. This is due to the high level of optical power in some fibre-optic installations and to the fact that light radiation is infrared type (not visible for the human eye).

In consequence, never look directly either at the optical output of an optical transmitter, or at the end of an optical fibre connected to an active optical transmitter. This situation will be especially dangerous when the inspection takes place with the assistance of light focusing elements, magnifying glasses, microscopes, etc.

In case these recommendations are not followed, eyes would be exposed to a level of light radiation that would be higher than the maximum admissible level. This could result in permanent and irreversible damages in eyes.

The use of controls, adjustments or procedures different from the ones specified here, could cause a dangerous exposure to radiation.

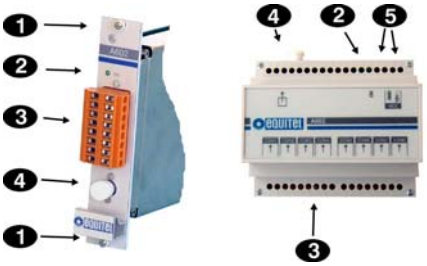
DESCRIPTION
EQUITEL digital contact closures systems of A600 series have been designed for the fibre optic transmission of information about the status (open or closed) of its corresponding inputs. Ideal applications comprise control of surveillance and security systems, opening and closing automatic doors, remote control of TV cameras, switching lights on and off, etc.

The use of optical fibre in this equipment allows its application in long distance transmissions (thanks to its low attenuation) and also in those cases in which transmission goes through hostile electromagnetic fields (optical technology is immune to this kind of interference).

EQUITEL A602 model is an 8 contact closures optical transmitter, which is capable of transmitting information about their situation through one single fibre. There are different versions for transmission links in multimode 1st or 2nd window (850 or 1,310 nm) and singlemode 2nd or 3rd window (1,310 or 1,550 nm). A LED diode is employed for light emission in multimode versions and a Laser diode in singlemode versions. The A602 has been designed to be used together with a compatible EQUITEL optical receiver.

A602 mechanical format is a 3U high and 5T wide module, which has been designed to be inserted into a 3U high housing of EQUITEL series P400, or alternatively an inside-plant box for DIN rail and 12 Vdc power supply.

The following photograph shows the most important parts of this device:



1 Fastening screws
2 'On' indicator
3 Electrical signal input connector
4 Optical signal output connector
5 Power terminals

INSTALLATION
For the module version, first make sure the P400 rack, which is provided with power supply, is off and then insert the A602 unit in any of the available positions, following the instructions given in the P400 manual. Screw the module to the rack by means of the fastening screws (1 in the picture).

For the DIN rail version, fasten the A602 unit to a DIN 50022-35 rail.

The electrical cabling will be carried out at the electrical input (3 in the picture) by allocating the poles as indicated on the outside mask of A602. It is important to take into consideration that closing one contact at the transmitter (numbered 1 to 8) provokes the closing of the equivalent contact at the receiver (also numbered 1 to 8).

Introduce the fibre jumper in the optical connector (4 in the picture) after removing its protective cover.

Do not connect unless you have previously cleaned the optical connector of the jumper. Introduce the connector carefully in order to avoid damages in the polished surface.

For the DIN rail version, branch the external power supply between +12 Vcc and GND (5 in the picture). Then switch on the power of the system and the 'ON' indicator (2 in the picture) will light.

OPERATION
Once the equipment is installed, it does not require any additional attention for its correct operation.

MAINTENANCE
This equipment has been designed to require no maintenance periodical operations.

In order to prolong the life of the equipment, the common caution measures in optical connection and disconnection must be observed.

The introduction of strange mechanical elements in the optical connector may result in irreparable damage in the optical components.

TECHNICAL CHARACTERISTICS	
OPTICAL PARAMETERS	
Light source	Laser (A and B versions) LED (C, CM, D versions)
Wavelength (note 1)	850 nm (C and CM ver.) 1,310 nm (A and D ver.) 1,550 nm (B ver.)
Type of fibre	Singlemode (A and B ver.) Multimode (C, CM, D ver.)
Stabilisation	In power (A and B ver.)
Opt. power (notes 2 and 3)	≥-12 dBm (A and B ver.) ≥-13 dBm (62.5/125 C ver.) ≥-16 dBm (50/125 C ver) ≥-16 dBm (62.5/125 CM ver) ≥-19 dBm (50/125 CM ver) ≥-12 dBm (62.5/125 D ver) ≥-17 dBm (50/125 D ver)
ELECTRICAL PARAMETERS	
Number of channels	8
Type of signal	Contact closures
Open circuit voltage	+5 Vdc
POWER PARAMETERS	
Power requirements	Internal from P40W (module) 12 Vdc (DIN rail)
Consumption (note 1)	< 4 W
MECHANICAL PARAMETERS	
Format	Module for 19" 3U rack DIN rail box
Dimensions	5 TE x 160 mm (module) 90 x 105 x 70 mm (DIN)
Optical connector	FC/PC (A, B ver.) ST (C, CM, D ver.)
Electrical signal connector	Screw-in terminal
ENVIRONMENTAL CONDITIONS	
Temperature range	-40 ºC to +74 ºC
Humidity range	0 to 95% without condensat.
INDICATORS AND ALARMS (see note 4)	
Unit working	Green ON

Note 1.- Typical values, as a production average
Note 2.- Actual values are given in the test sheet
Note 3.- Consult with manufacturer or distributor for higher optical power units
Note 4.- LEDs on the front side

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